

FEDERAL REMEDIATION TECHNOLOGIES ROUNDTABLE

REMEDIATION CASE STUDIES AND TECHNOLOGY ASSESSMENT REPORTS FACT SHEET



The Federal Remediation Technologies Roundtable (FRTR) promotes interagency cooperation to advance the use of innovative technologies for the remediation of hazardous waste sites. One of the FRTR's priorities is the documentation and distribution of cost and performance information for completed and ongoing remediation projects. Primary members of the FRTR include the U.S. Department of Defense (DoD), Department of Energy (DOE), Department of Interior (DOI), National Aeronautics and Space Administration (NASA), and the U.S. Environmental Protection Agency (EPA).

The remediation case studies and general technology assessment reports published by the FRTR are available at www.frtr.gov. These reports provide site-specific information about actual technology applications and long-term monitoring/optimization based on information provided by federal and state agencies. Site managers, regulators, technology vendors, contractors, and the public can benefit from these experiences to improve technology selection and operation. This fact sheet describes the status of cost and performance activities, including recent additions of completed case studies and reports.

The FRTR recently announced the release of 45 new remediation case study reports and technology assessments in four focus areas. These include 13 cost and performance case

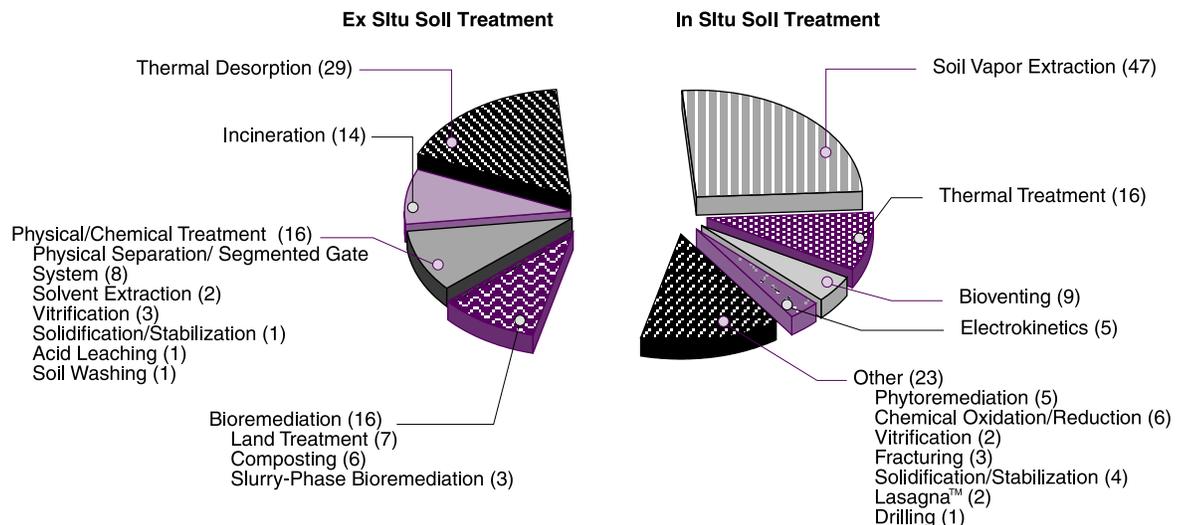
study reports describing the use of remediation technologies; 10 reports describing the use of site characterization and monitoring technologies; 13 case studies describing long-term monitoring/optimization of remediation technologies; and 10 reports describing the assessments of remediation technologies at hazardous waste sites.

The four focus areas for remediation case studies and technology assessment reports represent a wide spectrum of technology deployment in the field, ranging from large-scale demonstrations to full-scale applications at single sites and at multiple sites, and long-term technology optimization.

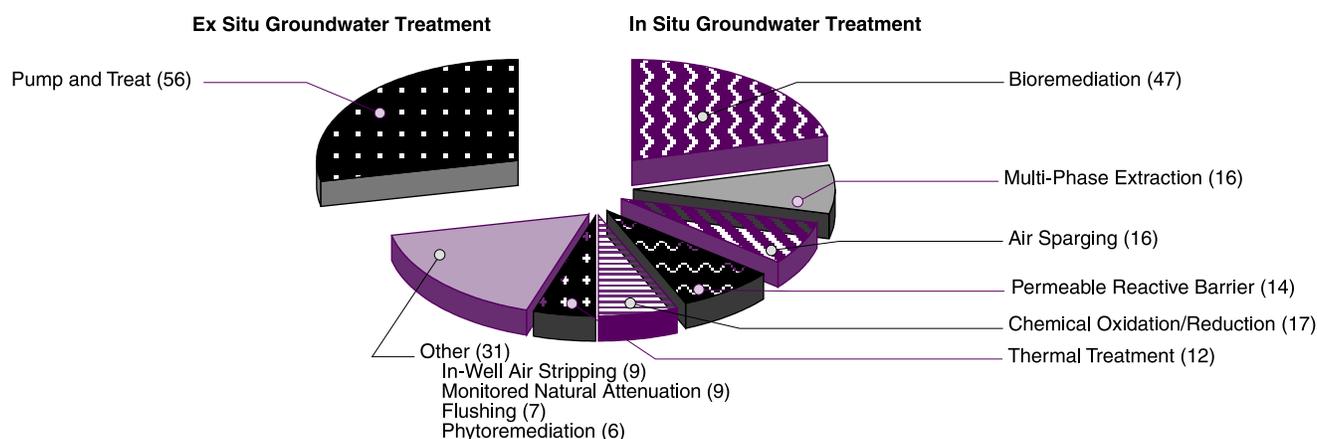
HIGHLIGHTS

- 7 new case studies addressing cleanup using aggressive in situ technologies such as chemical oxidation, thermal treatment, chemical reduction, and bioremediation.
- 2 new case studies about expediting site assessment using the Triad approach
- 13 new case studies on long-term monitoring/optimization prepared by federal agencies such as EPA, the Air Force, and the Navy
- 10 technology assessment reports covering technologies such as phytoremediation, bioremediation, air sparging, in situ thermal treatment, and in situ chemical oxidation

EXHIBIT 1: SOIL REMEDIATION CASE STUDIES BY TECHNOLOGY



<http://www.frtr.gov>



REMEDIATION TECHNOLOGY COST AND PERFORMANCE CASE STUDIES

The FRTR has added 13 new remediation case studies for a total of 374. These remediation technology cost and performance case studies cover a wide range of technology types and contaminants. Each report (about 10-40 pages in length) provides information about site background and hydrogeology, a description of the technology design and operation, data about cost and performance, information about lessons learned from the project, and points of contact.

The new remediation case studies include several different technologies for treating soil or groundwater contamination or both, with 7 reports addressing soil cleanup and 8 reports concerning groundwater. Exhibits 1 and 2 show the specific soil and groundwater technologies covered by the site remediation reports, along with the number of reports for each technology.

Abstracts (2 pages in length) are provided for each of the case studies summarizing key information about the site-specific technology application. Abstracts for the new reports are available in the ninth volume of Abstracts of Remediation Case Studies (EPA 542-R-05-021, July 2005). The 13 reports and associated abstracts, along with additional related FRTR resources, are on-line at www.frtr.gov.

SITE CHARACTERIZATION AND MONITORING REPORTS

The FRTR has added 10 new site characterization reports, including reports about using the Triad to expedite site characterization, sediment characterization, contaminant analyses, and geophysical techniques. The 10 reports cover a full range of site characterization and monitoring techniques with many focused on technologies used in the investigation stage of site cleanup.

HIGHLIGHT OF NEW CHARACTERIZATION REPORT

The Cos Cob Power Plant Site in Connecticut is being assessed for potential reuse options. The Triad approach was used to expedite site characterization, and a preliminary conceptual site model (CSM) was developed based on a review of existing data from previous investigations. Contaminants of potential concern include asbestos, petroleum-related substances, polychlorinated biphenyls (PCBs), and arsenic. It was agreed that a primarily field-based approach could be used to expand sampling and analytical coverage at the site and that a dynamic work strategy would be beneficial to assist in further delineation of contaminants at the site, particularly for PCBs. The dynamic work strategy called for use of test kits, field methods and a grid sampling approach to affordably expand the extent and density of information available to support decision-making. Direct-push methods were used to collect soil samples from 1-foot intervals across the site. Estimated cost savings as compared with the use of a more traditional, phased approach were calculated at approximately 35 percent.

LONG-TERM MONITORING/OPTIMIZATION CASE STUDY REPORTS

The FRTR has added 13 new reports on long-term management/optimization. The reports describe long-term management/optimization efforts that have either been implemented or evaluated, and cover techniques such as groundwater monitoring program evaluation, plume capture evaluation, and hydraulic optimization. Reports include activities at single sites and at multiple sites.

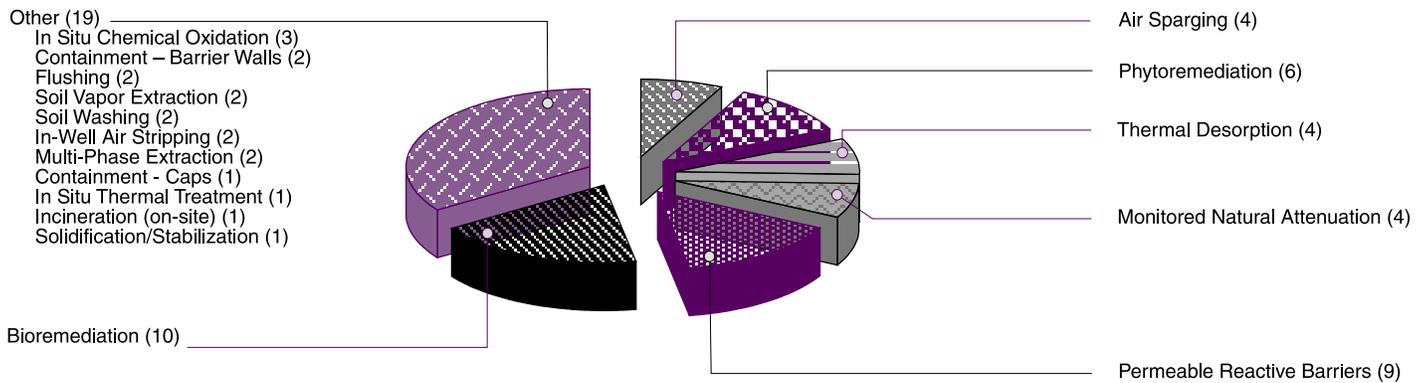
HIGHLIGHT OF LONG-TERM MONITORING/ OPTIMIZATION CASE STUDY

Pump and treat was implemented at the Fort Lewis Logistics Center in Washington in 1995 to treat groundwater contaminated with TCE, DCE, and other halogenated organic compounds. Remedial action monitoring network optimization was conducted for the extraction and treatment system. Monitoring and Remediation Optimization System (MAROS) software developed by the Air Force Center for Environmental Excellence (AFCEE) was utilized for statistical analyses and network optimization. A small-scale increase in the overall number of remedial action monitoring wells and surface water locations sampled (increase of 20 locations), coupled with a reduction in the frequency at which samples are collected for a number of wells, is expected to result in a significant time and cost savings over the course of the remedial action monitoring program at the Logistics Center. In each of the first two years after implementation of the recommendations set forth in this report, a cost savings of approximately \$31,000 per year is likely to be achieved.

REMEDIATION TECHNOLOGY ASSESSMENT REPORTS

The FRTR is compiling general technology assessment reports prepared by federal agencies and the Interstate Technology Regulatory Council (ITRC) (www.itrcweb.org). As technologies mature, federal agencies and states are moving beyond documenting individual projects to providing more comprehensive analyses about technologies that have been used at multiple sites. These reports provide a summary of findings about the use of a technology based on practical field experience across multiple sites, including lessons learned. Some of these reports contain information about the design, implementation, and selection of a technology. Currently, there are 64 FRTR remediation technology assessment reports covering 16 technology types and 3 contaminant/site-type focus areas, including arsenic, Dense Non-Aqueous Phase Liquids (DNAPLs), and Underground Storage Tank (UST) sites/fuel-contaminated sites. A separate fact sheet has been prepared which highlights recent reports of greatest value to project managers.

EXHIBIT 3: REMEDIATION TECHNOLOGY ASSESSMENT REPORTS



REMEDIATION CASE STUDIES AND TECHNOLOGY ASSESSMENT REPORTS - ORDERING INFORMATION

The following FRTR documents are available free-of-charge from the U.S. EPA/National Service Center for Environmental Publications (NSCEP), while supplies last. To order, mail a request to:

U.S. EPA/National Service Center for Environmental Publications
P.O. Box 42419
Cincinnati, OH 45242

or FAX to (513) 489-8695. Also, telephone orders may be placed at (800) 490-9198 or (513) 489-8190.

- Abstracts of Remediation Case Studies, Volume 9, July 2005 (EPA 542-R-05-021)
- Guide to Documenting and Managing Cost and Performance Information for Remediation Projects, Revised Version, October 1998 (EPA 542-B-98-007).



Solid Waste and
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